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RAW SEQUENCE LISTING  
PATENT APPLICATION US/09/210,747ADATE: 09/28/1999  
TIME: 14:25:17

Input Set: I210747A.RAW

This Raw Listing contains the General Information  
Section and up to first 5 pages.

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1 <110> APPLICANT: Briggs, Robert E.  
2 Tatum, Fred M.  
3 <120> TITLE OF INVENTION: Construction of Pasteurella Haemolytica Vaccines  
4 <130> FILE REFERENCE: 295.77957  
5 <140> CURRENT APPLICATION NUMBER: US/09/210,747A  
6 <141> CURRENT FILING DATE: 1998-12-15  
7 <150> EARLIER APPLICATION NUMBER: 08/643,299  
8 <151> EARLIER FILING DATE: 1996-05-08  
9 <150> EARLIER APPLICATION NUMBER: 08/162,392  
10 <151> EARLIER FILING DATE: 1993-12-06  
11 <160> NUMBER OF SEQ ID NOS: 6  
12 <170> SOFTWARE: PatentIn Ver. 2.0  
13 <210> SEQ ID NO 1  
14 <211> LENGTH: 1556  
15 <212> TYPE: DNA  
16 <213> ORGANISM: Pasteurella cf. haemolytica  
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20 ttgaaagtgt tagcttaaca agcggttacc ttttatgaaa attttacaaa tttaaagaga 180  
21 aaaatggaaa aactaacttt aaccccgatt tcccggatg aaggcgagat caatttacct 240  
22 gttctaaaaa gcctgtctaa ccgagcccta ttattagccg ccttagccac cggtagcact 300  
23 caagtgacca atttatttata tagtgatgat attcgacata tgctcaatgc cttaaaagg 360  
24 ttaggcgtga aatatgagct atcggacgat aaaaccgtct gtgtacttga agggatttgt 420  
25 ggagctttta aggttcaaaa cggcttatca ctgtttctcg gcaatgcagg cacggcaatg 480  
26 cgaccacttg cagcagcatt gtgtttaaaa ggtgaggaaa aatcccaaatt cattcttacc 540  
27 ggtgaaccaa gaatgaaaaga acgccccatt aaacacttag tcgatgttt acgccaagta 600  
28 ggggcagagg tacagtattt agaaaatgaa ggctatccac cggtggcaat tagcaatagc 660  
29 gtttgcaggg gcgaaaaagt gcaaattgac ggctcgattt ccagccaatt tctaaccgca 720  
30 ttgctgatgt ctgccccatt agcggaaaggc gatatggaaa ttgagattat cggtgatctg 780  
31 gtatcaaaac ctttatattga tattaccctt tcgatgatga acgattttgg tattacgggt 840  
32 gaaaatcgag attacaaaac ctttttagtt aaaggtaaac aaggctatgt tgctccacaa 900  
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34 attaaggcag gtaaaagtaac gggcattggt aaaaaatcga tccaaaggcga cogcttggtt 1020  
35 gcccgtgtg tggaaaaat gggggcaaaa atcacttggg gagaggattt tattcaagcc 1080  
36 gagcaatccc cgctaaaagg cgtagatatg gatatgaatc atattcctga tgcggcaatg 1140  
37 acgattgcaa caaccgctt atttggcga ggagaaaacag ttatccgcaa tatttataac 1200  
38 tggcggtaa aagaaaccga ccgcttgaca gcaatggcaa ccgaattgcg taaagtgcgg 1260  
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40 gaaaacttcc agcacgctga aattgaaacc tataacgatc accgtatggc aatgtgtttt 1380  
41 tcattaattt cggtatcgaa tacagaagtg acgatcttag atccaaatttgc taccgctaaa 1440  
42 acgttcccga cttacttttag ggacttggaa aaattatcg gtcagataaaa gtaaaaaaagg 1500  
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44 <210> SEQ ID NO 2

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45 <211> LENGTH: 434  
46 <212> TYPE: PRT  
47 <213> ORGANISM: Pasteurella cf. haemolytica  
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52 20 25 30  
53 Ala Leu Ala Thr Gly Thr Thr Gln Val Thr Asn Leu Leu Asp Ser Asp  
54 35 40 45  
55 Asp Ile Arg His Met Leu Asn Ala Leu Lys Ala Leu Gly Val Lys Tyr  
56 50 55 60  
57 Glu Leu Ser Asp Asp Lys Thr Val Cys Val Leu Glu Gly Ile Gly Gly  
58 65 70 75 80  
59 Ala Phe Lys Val Gln Asn Gly Leu Ser Leu Phe Leu Gly Asn Ala Gly  
60 85 90 95  
61 Thr Ala Met Arg Pro Leu Ala Ala Leu Cys Leu Lys Gly Glu Glu  
62 100 105 110  
63 Lys Ser Gln Ile Ile Leu Thr Gly Glu Pro Arg Met Lys Glu Arg Pro  
64 115 120 125  
65 Ile Lys His Leu Val Asp Ala Leu Arg Gln Val Gly Ala Glu Val Gln  
66 130 135 140  
67 Tyr Leu Glu Asn Glu Gly Tyr Pro Pro Leu Ala Ile Ser Asn Ser Val  
68 145 150 155 160  
69 Cys Arg Gly Gly Lys Val Gln Ile Asp Gly Ser Ile Ser Ser Gln Phe  
70 165 170 175  
71 Leu Thr Ala Leu Leu Met Ser Ala Pro Leu Ala Glu Gly Asp Met Glu  
72 180 185 190  
73 Ile Glu Ile Ile Gly Asp Leu Val Ser Lys Pro Tyr Ile Asp Ile Thr  
74 195 200 205  
75 Leu Ser Met Met Asn Asp Phe Gly Ile Thr Val Glu Asn Arg Asp Tyr  
76 210 215 220  
77 Lys Thr Phe Leu Val Lys Gly Lys Gln Gly Tyr Val Ala Pro Gln Gly  
78 225 230 235 240  
79 Asn Tyr Leu Val Glu Gly Asp Ala Ser Ser Ala Ser Tyr Phe Leu Ala  
80 245 250 255  
81 Ser Gly Ala Ile Lys Ala Gly Lys Val Thr Gly Ile Gly Lys Lys Ser  
82 260 265 270  
83 Ile Gln Gly Asp Arg Leu Phe Ala Asp Val Leu Glu Lys Met Gly Ala  
84 275 280 285  
85 Lys Ile Thr Trp Gly Glu Asp Phe Ile Gln Ala Glu Gln Ser Pro Leu  
86 290 295 300  
87 Lys Gly Val Asp Met Asp Met Asn His Ile Pro Asp Ala Ala Met Thr  
88 305 310 315 320  
89 Ile Ala Thr Thr Ala Leu Phe Ala Glu Gly Glu Thr Val Ile Arg Asn  
90 325 330 335  
91 Ile Tyr Asn Trp Arg Val Lys Glu Thr Asp Arg Leu Thr Ala Met Ala  
92 340 345 350  
93 Thr Glu Leu Arg Lys Val Gly Ala Glu Val Glu Glu Gly Glu Glu Gly  
94 355 360 365

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95 Glu Asp Phe Ile Arg Ile Gln Pro Leu Ala Leu Glu Asn Phe Gln His  
96 370 375 380  
97 Ala Glu Ile Glu Thr Tyr Asn Asp His Arg Met Ala Met Cys Phe Ser  
98 385 390 395 400  
99 Leu Ile Ala Leu Ser Asn Thr Glu Val Thr Ile Leu Asp Pro Asn Cys  
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122 <213> ORGANISM: Artificial Sequence  
123 <220> FEATURE:  
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125 site for restriction enzymes PhaI and SfaNI in the  
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136 <212> TYPE: DNA  
137 <213> ORGANISM: Escherichia coli  
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141 <211> LENGTH: 25  
142 <212> TYPE: DNA  
143 <213> ORGANISM: Escherichia coli  
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**aggctgcctg gctaatccgc gccag**

25

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**VERIFICATION SUMMARY  
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Line ? Error/Warning

Original Text

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